

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau(43) International Publication Date  
17 July 2003 (17.07.2003)

PCT

(10) International Publication Number  
WO 03/057736 A1(51) International Patent Classification<sup>7</sup>: C08B 37/0892-504 Lodz (PL). CIECHANSKA, Danuta [PL/PL]; ul.  
Bialostocka 25 m.1, 93-355 Lodz (PL).

(21) International Application Number: PCT/IB03/00025

(22) International Filing Date: 8 January 2003 (08.01.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

P351600 9 January 2002 (09.01.2002) PL  
P351601 9 January 2002 (09.01.2002) PL(71) Applicant (for all designated States except US): ABBOTT  
LABORATORIES DE COSTA RICA LTD [BS/BS];  
Sassoon House, Shirley Street and Victoria Avenue,  
Nassau, Island of New Providence (BS).

(72) Inventors; and

(75) Inventors/Applicants (for US only): STRUSZCZYK,  
Henryk [PL/PL]; ul. Tuwima 8 m.29, 95-100 Zgierz  
(PL). NIEKRASZEWICZ, Antoni [PL/PL]; ul. Wici  
72 m.9, 91-157 Lodz (PL). KUCHARSKA, Magdalena  
[PL/PL]; ul. Kostki Napierskiego 2 m.39, 94-056 Lodz  
(PL). URBANOWSKI, Alojzy [PL/PL]; ul. Limbowa  
41, 92-015 Lodz (PL). WISNIEWSKA-WRONA, Maria  
[PL/PL]; ul. Inowroclawska 5 m.8, 94-056 Lodz (PL).  
WESOŁOWSKA, Ewa [PL/PL]; ul. Elsnera 9 m.36,(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,  
SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,  
VN, YU, ZA, ZM, ZW.(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI,  
SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

## Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

## Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: METHODS OF PRODUCING MODIFIED MICROCRYSTALLINE CHITOSAN AND USES THEREFOR

(57) Abstract: Disclosed are methods of producing modified microcrystalline chitosan. Chitosan in aqueous solution is degraded enzymatically, hydrolytically or oxidatively. The chitosan solution is then alkalized with agitation using aqueous hydroxides and/or their salts to attain a pH not lower than 7.0. The precipitated modified microcrystalline chitosan is highly pure and may be concentrated and dried according to known methods. Methods according to the invention also include methods by which an aqueous solution of chitosan is first alkalized using hydroxides and/or their salts to a pH not lower than 7.0. Then the precipitated microcrystalline chitosan is subjected to enzymatic or oxidative degradation to achieve a desired average molecular weight and polydispersity. The product is highly pure and may be concentrated and dried according to known methods.

WO 03/057736 A1